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(54) **SYSTEM FOR HANDLING AN AUGMENTATION IMPLANT**

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This patent is subject to a terminal disclaimer.

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,154,239 A 5/1979 Turley
4,411,570 A 10/1983 Juric

(Continued)

FOREIGN PATENT DOCUMENTS

EP 2236101 A1 10/2010
FR 2445806 A1 8/1980

(Continued)

OTHER PUBLICATIONS

Bailey et al., "Biomechanical evaluation of a new composite bioresorbable screw", Journal of Hand Surgery (British and European Volume, 2006) 31 B: 2 : 208-212.

(Continued)

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(57) **ABSTRACT**

A handling device for handling an augmentation implant is proposed, comprising an elongated housing having an axial through-bore for accommodating a sonotrode of an ultrasound applicator, and a lateral opening for inserting a pin magazine with an augmentation pin, wherein the axial through-bore and the lateral opening are connected to each other. The handling device further comprises a distal implant portion for fastening a proximal end of the augmentation implant at the housing, and a proximal tool portion for driving and/or augmenting the augmentation implant.

4 Claims, 8 Drawing Sheets

